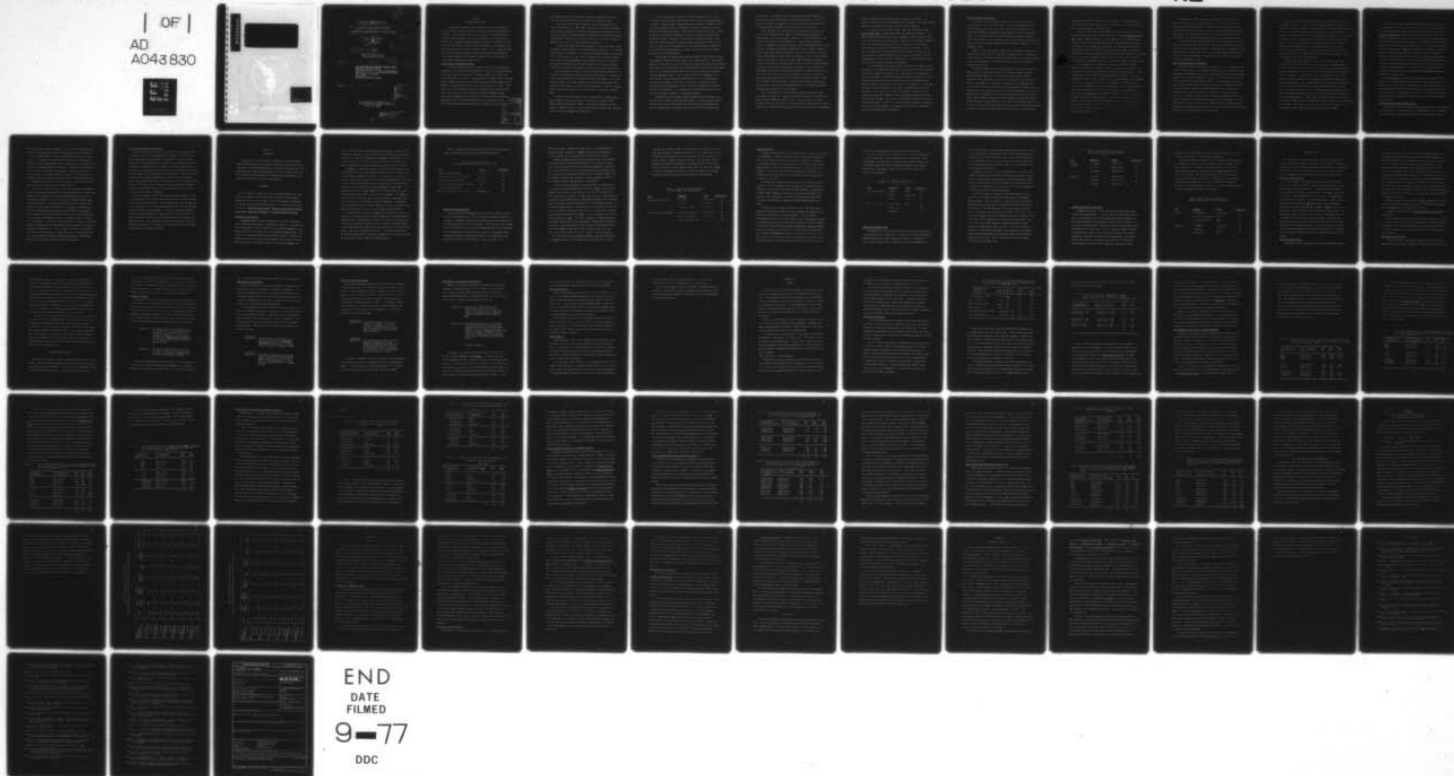


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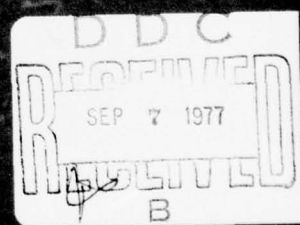
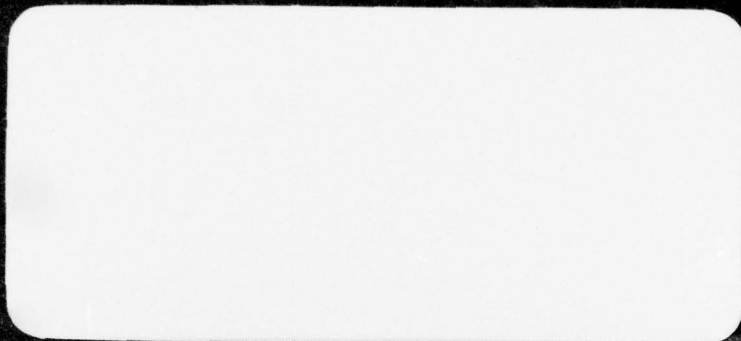


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9 TECHNICAL REPORT NUMBER 76-118

6 THE PROCESS OF ROLE PERCEPTION BETWEEN
SUBORDINATES AND SUPERORDINATES IN A MISSILE WING

by

10 Arthur B. Sweney Ph.D.

V. Ann Tubbs M.A.

11 1976

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Wichita State University

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Chapter 1

Background and Purpose

To the author's knowledge, there have been no previous comprehensive studies involving the social perception within the superordinate-subordinate framework. Since the model used in this research is a recent development, it has not been exploited in many of these systematic and obvious areas of application. The general research background, however, is necessary in order to explain some of the findings of the results chapter. The citations can be classified according to a number of general titles. Social climate and leadership styles, subordinate behaviors, superordinate-subordinate interaction, interpersonal perception, subordinate's perceptions of superordinates, and superordinate's perception of subordinates.

Social Climate and Leadership Styles:

In the late thirties during an era when the world was concerned about the possibilities of efficient dictatorships, a number of social psychologists instituted a search into the areas of leadership and social climate. The most effective and articulate of these groups was the Research Center for Group Dynamics at MIT. Many studies were conducted but the most comprehensive were reported in the journal articles of Lewin, Lippit, and White in 1939. These particular studies involved the naturalistic observations of subordinate behavior where supervisors were simulating three basic management styles: authoritarian, democratic, and laissez-faire. The term social climate was developed to imply the interpersonal context of the leadership process. The initial focus was directed toward questions of aggression as an outgrowth of

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the leadership style but the research ultimately established a context of studying wider manifestations of the reactions to leadership styles.

Some later studies within the same vein were conducted by Coch and French, 1948, Katz et.al., 1951, 1966. These studies replicated the general findings that laissez-faire or permissive management were least effective and that authoritarian-directive management and democratic-participatory management had succeeded in various areas with the former having the greater tendency to generate open hostility or passive aggressive behavior.

A decade later Adorno and Frenkle-Brunswik, Levinson, and Sanford, 1950, developed a thorough treatise on the "authoritarian personality". In this work they succeeded in integrating a wide variety of divergent concepts and dynamics into a central syndrome or type. Their findings were that fascism, ethnocentrism, dogmatism, counterdependency and some specialized forms of rigidity were highly interrelated and functionally determined from early childhood training and from generalized exposure to prevailing cultural value systems.

Under the concept of authoritarianism it became apparent that hostility and simple paranoid behavior were associated with high needs for structure and intolerance for ambiguity. A thorough follow-up on the research in this area since that time is in a review reported by Kirsch and Dillabay (1967) which reports over 200 studies on the authoritarian personality. There are probably another 1000 studies utilizing the "E and F Scales" which were not reported there.

A return to the environmental as well as personality interpretation of other leadership behaviors can be seen in later works of Lavena (1949), Stodgill (1948), and Berkowitz (1956). These studies emphasized the role aspects of leadership styles indicating the situational factors most frequently entering into most management style decisions.

In the last two decades, leadership styles have become a central issue in research involving organizational behavior and in the social psychology applied to industry. McGregor (1960) suggested that the difference in leadership styles could be associated with basic differences in assumptions concerning the work process held by the superordinate. The "Theory X" assumptions are that: workers dislike their occupations; motivation is primarily induced from without, and continual vigilance is necessary if any project is to be accomplished. These assumptions lead to supervisory behaviors which are autocratic, directive, and coercive. The "Theory Y" assumptions are at the opposite pole and suggest that man is internally motivated and has no reason to dislike his work if allowed to develop his own payoff systems.

Another model for understanding leadership behavior within the work setting was presented by Blake and Mouton (1964) in their managerial grid. The typology employs the interaction of two basic dimensions, concerns for people and orientation toward the task. All positions within the *Cartesian grid* formed can be described, but the usual typology involves the four corners and the center as discreetly different management styles. The 1,1 position implies no management; 9,1 is task-oriented, and associated with authoritarianism; 1,9 is the benevolent-missionary type manager; the middle or 5,5 position is sometimes called the compromiser, and 9,9 represents a fusion of the two characteristics considered the most favorable position. This model has high communication value but has not been particularly successful in generating research.

The model having the greatest methodical sophistication and theoretical possibilities is Fiedler's 1967 Contingency Model. His basic typology involved task-oriented leaders and relationship-oriented leaders but he demonstrated that this effectiveness is contingent upon the nature of the task which they

are performing. His research results show that task-oriented leaders are more effective under very favorable or unfavorable conditions. This curvilinear of relationships suggests why only low relationships have been found in the past between management styles and measures of performance.

Other meaningful but related models and typologies can be found in the work of other research writers. Weber (1947) established the typology of organizational situations and leader's behaviors. He outlined them to be traditional, bureaucratic, and entrepreneurial. Likert (1961) presents four systems of management to replace the three originally presented by Lewin, Lippit, and White. Tannenbaum and Schmidt (1958) established a typology of superordinate styles based upon dominant behavior; tells, sells, consults, and join. Tuckman (1963) suggests another functional taxonomy with his forming, storming, norming, and performing. Misumi and Tasaki (1965) established a taxonomy similar to that used in the Blake, Mouton Grid yet couched in slightly different terminology. They emphasize performance, maintenance, both performance and maintenance, and neither performance and maintenance. Because of the similarity to the Grid, many of the results can be directly translated in those terms, even though they probably owe their terminology to the work of Cattell (1950) and his research with small groups in which he discriminated group energies into effective synergy for the performance area and into maintenance synergy directed toward sustaining intra group needs.

Most of the models for viewing leadership behavior have been logical ones rather than empirical. Some major exceptions, however, are the factorial work of Hemphill (1950) and Wofford (1971). The latter found five factor dimensions from his empirical data. These factors were identified with leader's need systems, and were entitled group achievement and order, personal enhancement,

personal interaction, dynamic achievement and security maintenance. His studies indicate that these five management styles engender very little different behaviors in subordinates and lead to vastly different outcomes.

In a return to logical models, Sweney (1970, 1971) presented his Response to Power Model to explain subordinate and superordinate behavior. The model represented the superimposition of Rosenzweig's (1944) frustration reactions, upon the Lewinian social climates. This results in three basic leadership roles. The autocratic-extrapunitive role is associated with confrontive-rejection behavior employed as an ego-defense against frustration. The permissive-intrapunitive role employs laissez faire management tactics as a defensive measure to appease subordinates and to avoid mistakes and criticisms. The equalitarian, impunitive role is perceived as a rational solution orientation which is free from ego defensive components.

All of these behaviors are perceived to be the result of long term social role learning. The theory postulates that the role confusion which is inherent in any person's behavior results from the cultural conflict surrounding two basic survival needs. Confrontive-competitive behavior is essential for individual dominance and survival, and supportive or nurturant behavior of the permissive leader is essential for the survival of the species. It thus becomes contingent upon the situation which of these two management styles is more appropriate. Out of this conflict and as a response to objective problem solutions and needs for "proactive" rather than reactive behavior this superordinate role is forged. This rational, objective role has been identified as equalitarian because it derives its impetus from neither coercion nor seduction, but from mutual self interest. It recognizes that an equality relationship should exist between power and obligation.

Subordinate Behavior and Styles:

The emphasis upon leadership characteristics and styles have all but starved studies in the subordinate areas. It could be interpreted that the original Lewin, Lippitt, and White (1939) study was directed towards the subordinate's behavior contingent upon experimentally manipulated leadership styles. In this study as well as more of those that followed, subordinate behavior was perceived to be a dependent variable rather than an independent one, and as such it was not properly appreciated as an essential element in the total management system.

Mechanic, (1964) and Zaleznik (1965) fielded independent researches which established the subordinate as a theoretically respectable part of management systems research. They each discussed functional behavior but neither developed a taxonomy for subordinancy nor established any rules for superordinate-subordinate interaction.

Peripheral research on subordinancy resulted from some of the sociometric studies of leaders particularly in the study of emergent leaders. Hollander & Webb (1955) found high correlations among persons chosen as leaders and those selected as followers when the selection was a spontaneous process. Gibb (1964) would explain this correlation by his research which indicates that followers subordinate themselves selectively to members who are perceived to be most like them but having a superordinate position at that time. Leadership and followership would thus seem to follow many of the same dynamics. Nelson (1964) compared liked and disliked followers to discover which system of dichotomization discriminated best. He found that liked leaders were similar to liked followers in being more satisfied, emotionally controlled, and acceptant of authority. Leaders in both categories were more alert, job motivated and

aggressive than were the followers in both categories. This emphasizes the fact that leaders do vary significantly from followers but along characteristics not studied by Hollander and Webb and Gibb.

By applying Rosenzweig's model (1944) for the reaction to frustration to the subordinate areas, Sweney (1970) completed his two-level Response to Power Model (RPM). Although coordinated in special ways, the subordinate roles are unique and differ from the superordinate roles. The confrontive subordinate is extrapunitive and identified as the rebel. The supportive-subordinate is intropunitive and fits the behavior described by Jones (1962) as ingratiation. The objective-nonpunitive subordinate has been identified as the critic cooperator, but has no research counterpart and was difficult to name since all terms in this area seem to be connotively biased toward supportiveness or confrontiveness.

Jones (1962) reported a program of research involving the needs for projecting a favorable self image. He and his associates found that this was done primarily by the subordinate and by using the two basic behaviors. Taguiri (1958) showed that flattery or other enhancement and conformity in opinion, judgment and behavior. Taguiri found a strong relation between liking someone and perceiving that the attraction is reciprocated. Thus, the ingratiator incorporates the procedure of liking and other enhancement to generate positive feeling in the other toward himself. The ingratiator is also conforming in opinion and independence, and his behavior has been identified as a "yes man" by Whyte (1956) or an organizational man. Tossi (1971) described the "ingratiator" when he discusses "subordinate authoritarianism" although he doesn't use the identification. His total tolerance for freedom for employees fits the ingratiator role and seemed to operate best in the context of the authoritarian superordinate.

Jones and Jones (1964) found empirical support of the relationship between confrontive and ingratiating behavior. Christie and Merton (1958) and DeCharmes and Rosenbaun (1960) in studying Machiavellian behavior demonstrated that individuals with low self esteem were more desperate for external reinforcement and that hence more likely to use other ingratiating behaviors. This behavior fits the other-directedness pattern ascribed by Riesman (1950).

The rebel subordinate role has been identified by sociologists as being directed toward power equalization (Mulder, 1971) as being other-directed and, hence, as proactive manipulative tactic. The psychologists have largely studied rebelliousness as a specialized form of hostility and hence a reactive state. The rebel is counter dependent in terminology by Adorno (1950) is a negative attitude changer (McGuire 1964).

Superordinate-subordinate Interaction:

Hierarchical interaction has always been implicit in the research for the areas of social climate. This interaction however usually has been considered one-sided with the superordinate providing the major inputs and the subordinate's reactions serving only as dependent variables. The full impact of the nature of the "superordinate-subordinate" system has still not been fully realized. Blau and Scott (1962) emphasize leadership styles as being dependent upon the social environment factors which were operating upon them. Fiedler (1967) indicates that his contingency model is related to environmental factors. Scrutiny of his examples suggest, however, that his contingency variables are primarily structural rather than social aspects of the environment. Little or no attention is given to subordinates. Hollander and Julian (1969) emphasize the melding of leadership behavior with situational characteristics and follower's perceptions in the development of a unified system.

Kipnis and Lane (1962) systematically studied subordinate's effects upon superordinate behavior. In their simulated management exercise, there were established significant patterns of superordinate behavior based upon subordinate's variables. The subordinate who lacks understanding illicitly exerts power on the part of the superordinate. The discipline problem however, illicitly exerts coercive or persuasive power. They found that the supervisors who were less confident were less willing to use power but they did not make the logical connection between the confidence and whether the superordinate's power was being reinforced by his subordinates. House, Filley and Gujarati (1971) indicate that the subordinate's satisfaction primarily depends upon the degree to which a superordinate fulfilled role expectations.

Goodstadt and Kipnis (1970) found that the reluctance to use power on the part of the low self-confidence manager was limited to personal power. It was found that they did apply formal power such as the arbitrary enforcement of rules and regulations to substitute for their reluctance to use more subjective kinds of influence. In their study they found the personality of a single hostile subordinate increases the likelihood that positive rewards were given to other subordinates. Their interpretations for these findings included unconscious bribery or the application of some distributive justice concept. They did not consider the possibility of perceptual bias and anchoring effect which the negative subordinate was having upon the superordinate's perceptions of the other subordinates. In their study they also found that as a number of subordinates increased the use of coercive, the formal power by their superordinate was increased. Their results involved lack of confidence and feeling of inexperience supported earlier findings by French and Snyder (1954).

These studies and others suggest that the superordinate cannot be discussed meaningfully without introducing variables relating to the behavior of the subordinates who make up the remainder of the people system. The Response to Power Model (Sweney, 1970, 1971) emphasizes the symbiotic relationships between certain roles played by superordinates and subordinates. In the Authoritarian Personality, Adorno et. al. emphasized the ingratiating behavior that an authoritarian personality exhibits in dealing with authoritarian superordinates. The RPM model emphasizes this symbiotic relationship between the authoritarianism and ingratiation. In addition, the model indicates that permissives and rebels are also playing complimentary roles and would operate symbiotically in superordinate-subordinate relationships. The equalitarian-critic combination are perceived to be interrelated since objectivity demands objectivity. This matter of fact climate maximizes effective synergy and minimizes the manipulative maintenance synergy associated with the other roles.

With the RPM model, satisfaction is perceived to be related to the matching of superordinate and subordinate roles in some complex forms. The Harmony Index (Sweney, 1974) is the rationale for various formulations to optimally summarize the merging of complimentary roles between the superior and subordinates. The Interpersonal Power Profile is the basis for descriptively plotting the outcomes of role interactions between subordinates and superordinates.

Subordinate Perceptions of Superordinates:

The process of perceiving a superordinate's behavior to be non-functional or inappropriate is a common phenomena in organizational life. Considering its prevalence, it was somewhat surprising to the authors that there was

such a scarcity of research devoted to it. No single study was found which centrally investigated the perception of superordinates by subordinates.

Bales (1950) presented a rating system for viewing behavior in group settings. This observer system has been applied by some researchers as a system for rating superordinate's behavior. Being simple in conceptualization, it requires a greater amount of inference and translation for implementation. By and large, it has not been too successful in its application to this particular area. The "Carter System" is much more highly articulated and employs more directly observable variables but has so many categories that it is extremely cumbersome for a single individual to record and hence also fails to provide a suitable basis for upward ratings.

Their results indicate that there is a positive manifold of perception among the subordinate's perceptions of the superordinate on all 5 areas being measured, i.e., consideration, structure, decisiveness, hierarchical influence and competence. The lack of specificity in upward ratings suggest a positive halo effect to be operating. Earlier studies by Likert (1961) and Pelz (1951) and Wagner (1966) have all indicated that subordinates experience a greater job satisfaction and hence a more positive perception of the superordinate if the superordinate exhibits more upward hierarchical influence rather than downward influence. Although the results of House, Filley, and Gujarati (1971) did not support the position, there is sufficient evidence to suggest that the interaction with the subordinate's style may be an essential connecting link. Likert's (1967) "linking pin" theory points to this basic interrelationship. Sweney (1970, 1971, 1972) postulates that the symbiotic dyadic relationships between superordinate and subordinates prescribe certain kinds of perception for their maintenance.

Superordinate-Subordinate Interaction:

Ashour and England (1972) tested the assumption made by Jaques (1961) and Thompson (1967) that the superordinate delegates discretionary tasks to the subordinate in accordance to his perception of the subordinate's capacities. They hypothesized that the authoritarian leadership style would be negatively associated with this tendency. The capacity assumption was verified but a slightly positive correlation was found between authoritarianism and delegation which they had difficulty explaining. They surmised that the authoritarian delegates uncertainty and retains the more structured tasks. They suggest some models of the delegation process which seem related to control such areas as task, the design of the subordinate's frequency of checks on a subordinate's behavior, and the manipulation of the criteria by which the subordinate is evaluated.

Kipnis and Consentino (1971) found that the corrective powers utilized by superordinates in the military varied significantly from those utilized in the industrial sample studied. Extra instruction and re-assignments were more highly used by the military supervisors and verbal talks and reprimands were more frequently used in industry. A study of interactions between problems and powers showed that increased supervision was associated with work problems while discipline and attitudinal problems were handled with diagnostic talks. They suggest that because of curtailments of the formal powers of the supervisor in industry, it is necessary for him to fall back upon persuasion and indirect influence.

CHAPTER 11

METHODOLOGY

The body of this report represents a collection of studies directed toward uncovering the subtle interaction among roles between superiors and subordinates. The data were gathered over a period of two years from missile combat crews and involved the development of a fairly comprehensive system for viewing the role of perception as a reflection of the observed roles as well as the product of successful communications.

INSTRUMENTS

The instruments utilized in the study had been developed prior to the onset of the research but had been relatively untried. They represent a comprehensive system of self- perception and other perception instruments for viewing superior and subordinate behavior. This battery of five tests include the: Response to Power Measure; Supervise Ability Scale; Responsibility Index; Supervisor Role Rating; and Subordinate Behavior Rating.

Response to Power Measure:

The RPM was developed as an attitude measure which would successfully reflect preferred superordinate - subordinate role behavior. The model used for its development is found in Figure 1 of the preceding chapter, and represents a basis for role identification and theoretical expectations. This instrument is extremely subtle and very difficult to fake. It reflects and individual's basic value system and not necessarily his concept of socially desirable behavior in any precise context. The instrument measures six

roles: authoritarianism; equalitarianism; permissiveness; cooperativeness; ingratiator; and rebel; but has some ancillary scales measuring a tendency to agree, i.e., give true responses, and a tendency to equivocate, i.e., use question responses. The latter characteristic has been identified with indecisiveness, but can also be equated with caution or lack of rigidity.

The RPM is a Likert-type opinionnaire instrument with ninety-six items equally divided into six scales, none of which has the self ipsatized quality of the other members of the battery. The consequence of this quality is that a subject may be high on all role styles simultaneously, or on none, and that in some circumstances the three superordinate or the three subordinate role styles can be all positively correlated with each other. This characteristic gives a greater freedom for the research results to reflect more accurately the attitudes structure of the respondents. The research results with this instrument, however, have shown that in most populations, the roles are fairly well defined, and fairly independent. Equalitarianism and authoritarianism are usually negatively correlated, and hence, have opposing relationships with other roles and other measured behavior.

The validity of the scales on the RPM is hard to determine since this battery of instruments are the only ones directed toward the measurement of these particular characteristics as specifically defined. The intercorrelation within the battery indicate validities in the high 50's and low 60's for the subordinate scales and slightly lower validity for the superordinate scales. The reliabilities have been found in the high 70's and low 80's but the high contamination of acquiesce response style is indicative of the spurious nature of most reliabilities and calculations.

Table 1 indicates some typical items for the six role styles and the degree of correlation with the construct which they measure.

TABLE 1: Typical Items for the
Response to Power Measure with Item Validities

<u>Item</u>	<u>Scale</u>	<u>Correlation</u>
I choose powerful friends	Authoritarian	.47
Everyone wants to be nice to others	Permissive	.32
I look for the person at fault	Equalitarian	-.49
I give my boss the contempt he deserves	Rebel	.53
I can stand being ignored	Critic	.41
One learns best from one's superiors	Ingratiator	.36

Supervise Ability Scale (SAS)

This instrument was developed by Elsass and Sweney (1970), to measure the three superordinate roles. The items provide situations to which the respondent is expected to rank the three responses given; each being one of the three superordinate roles from the model. In this way the test includes 30 - 3 part items, which in turn can be considered three, thirty item scales with the opportunity for three responses to each item. Because the three responses are ranked, the respondent's behavior is circumscribed and the three derived scales are self-ipsatized. On this instrument, the

authoritarian scale is negatively correlated with the equalitarian and permissive scales. Whereas on the RPM, the permissive is somewhat positively correlated with the authoritarian as the model would predict.

Although the SAS has something of an attitude flavor to its contents, the research results indicate the responses on this instrument are much more a function of social desirability and role expectations. These items being short may take on some of the characteristics of paired words used in the motivational measurement by Cattell and his associates (1963). For this reason it seems to tap the Gamma or Superego component of motivation. This characteristic has been defined as "role pressure".

It thus has been contaminated by social desirability response style while avoiding the acquiescence problem found on the RPM. This particular balance is useful since the test authors do not feel that response style should necessarily be avoided. The measured contribution of these qualities are central to the construct being investigated, and hence, their influence can be considered a positive fringe benefit in the measurement process. It is highly important, however, that the nature of the construct be identified with this particular measurement method since it is theoretically expected that authoritarian measured by the RPM will vary considerably from the same scale measured by the SAS. The validity measured by comparing these two instruments indicate that the two instruments do measure highly different constructs. In most populations, however, these constructs are more positively correlated with each other across instruments than they are to other roles, whether within the same instrument or across instruments.

The item validities for the SAS are somewhat higher than those found on the RPM, and hence, it can be assumed that the reliability for these

scales are also somewhat higher. Since the comparison of these two instruments have been used for comparison validities, it is somewhat more difficult to determine actually which validities are higher since the scales are intended to measure somewhat different constructs. The predictive validities obtained from comparing test behavior on the SAS with other kinds of test behavior place the validities somewhat higher than those found for the RPM. In similar circumstances there are many instances, however, when the RPM was found to have a higher validity for predicting nontest behavior.

TABLE 2: Typical Items for the Supervise
Ability Scale with Item Validities

<u>ITEM</u>	<u>RESPONSES</u>	<u>SCALE</u>	<u>CORRELATIONS</u>
My secret ambition is to	by admired	Authoritarian	.24
	be loved	Permissive	.25
	accomplish things	Accomplish	.47
Policies should be developed	by the man in charge	Authoritarian	.29
	from past experience	Equalitarian	.33
	which make people happy	Permissive	.33

Response Index (RI)

The RI was developed by Elsass and Sweney (1970), to measure subordinate role preferences. The social desirability set is given both by the title and the instructions, and thus utilizes a social desirability orientation as an inherent component of the test method. Its format is similar to the SAS but contains thirty-four, three part questions involving subordinate behavior. In this case, each of the three subordinate roles can be considered to have 34 items on each of which three different responses could be given a 1, a 2, or a 3.

The format and instructions establishes a basis for measuring "role pressure". This can be equated with role expectation coupled with precise perceptions of what would be socially desirable responses. The pressure to select "good" responses on the test acts to govern the person's actual behavior in the organization. The prescriptive pressure patterns found on the test can therefore be expected to have considerable predictive value.

The three scales on the RI, ingratiation, critic, and rebel, are all negatively correlated with each other with a somewhat less negative correlation existing between critic and ingratiation. This configuration corresponds very closely to the scale pattern found on the RPM, and accounts to some degree for the high intercorrelation between these two instruments. In spite of the highly different methods of measurement, agreement between these two instruments gives correlations in the high 50's and lower 60's for a normally heterogeneous population. The greatest difficulty of separation lies in discriminating critics from ingratiation, but this reflects both the novelty of this discrimination and also the similarities of the

constructs in the perceptions of the naive responding population.

The social desirability set and the superego motivation component does not seem to constitute as high a contamination or distortion as it does with the SAS. This may result from the fact that subordinate roles have not become as subject to social desirability pressures as have superordinate roles. The somewhat longer scales may also have added to the validity of the measures.

TABLE 3: Typical Items for the Responsibility Index with Item Validities

<u>Item</u>	<u>Responses</u>	<u>Scales</u>	<u>Correlations</u>
I'd like to change:	My boss	Rebel	.38
	Myself	Ingratiator	.25
	My job	Critic	.38
When I get mad, I;	Blow my top	Rebel	.47
	Think it over		.56
	apologize		.31

Supervisor Role Rating (SRR)

The supervisor's role rating was developed to measure the perception by subordinates of their supervisors. It consists of 12 questions directed toward describing their bosses' behavior by allowing the respondent to rank the three responses which correspond to the three superordinate role

styles being measured. The items have an open evaluative quality to them and can be considered to separate the equalitarian from the authoritarian and permissive on a fairly subjective level. Because of the evaluative tone the responses are highly subjective and thus provides a great deal of information concerning the perceiver along with the information concerning the person perceived.

The SRR is a relatively new instrument developed by Sweney in 1971, and has no counterpart against which validity can be estimated. The contents of this tech report should represent the most comprehensive report to date of the operations of this instrument, and should show not only its sources of contamination, but also the utility of this contamination in making other kinds of measurement possible.

The 12 item scales are fortunately highly homogeneous and hence, have a fairly high degree of reliability when applied to the heterogeneous samples. The coefficients are in the mid 70's for equalitarian and authoritarian scales, and in the high 60's are common for the permissive scale. The social desirability set does not seem to operate with this instrument, but the evaluative set does. Some of the reliability and homogeneity of the instrument does seem to be a result of the halo effect which is comprehensively covered by the measurement literature. This is diminished somewhat by successful efforts to direct responses into three areas rather than two. In this way, permissive sometimes is considered good and other times somewhat bad, with authoritarianism being perceived as being dominantly bad and equalitarianism being perceived as good. Table 4 shows the form and some response validities for some sample items.

TABLE 4: Typical Items from the Supervisor's
Role Rating (SRR) with Item Validities
N =

<u>Item</u>	<u>Responses</u>	<u>Scales</u>	<u>Correlation</u>
My Boss usually:	a) Gives in	Permissive	.53
	b) Is Fair	Equalitarian	.47
	c) Says No	Authoritarian	.51
His Voice is:	a) Direct	Equalitarian	.45
	b) Harsh	Authoritarian	.50
	c) Gentle	Permissive	.37

Subordinate Behavior Ratings (SBR)

The SBR was developed in 1971 to measure subordinate roles as perceived by the superordinate. In order to make the superordinate's activity easier, the subordinates on this instrument are handled as a group, and the superordinate rates them categorically rather than individually. In this case, the superordinate is evaluating as well as describing the three subordinate roles for the items. There is a highly favorable or unfavorable connotation to many of the items and the instrument thus reflects acceptance or rejection on the part of the superordinate. The sophistication rater could easily perceive that his ratings of his men might reflect negatively upon him as their supervisor, and hence it can be

expected that the ratings obtained on this instrument have been filtered through a certain amount of self-protective mechanisms.

The validity for this instrument is still inaccurately determined, but the contents of this report should represent the greatest amount of information concerning it. Currently the available reliabilities on this instrument are not quite as high as those on the SRR because the rating task is more diffused. The internal consistency reliabilities can be estimated in the high 60's and low 70's. The stability of the measurements seem to be considerably less since the measurements themselves seem to be highly contaminated by subjectivity. Table 5 provides examples of items and response correlations with scales.

TABLE 5: Typical Items from Subordinate Behavior Rating (SBR) with Item Validities

<u>ITEM</u>	<u>Responses</u>	<u>Scales</u>	<u>Correlation</u>
My Men:	a) Take orders	Ingratiator	.54
	b) Think for themselves	Critic	.47
	c) Protest decisions	Rebel	.62
They show me:	a) Respect	Ingratiator	.46
	b) Results	Critic	.39
	c) Problems	Rebel	.57

ADMINISTRATION

The instruments were administered over a period of eighteen months to the two operational squadrons functioning within the wing. The 533rd Squadron was tested twice, and the 532nd was only tested once. The methods and conditions under which the battery was given were somewhat different and the differences may have been significant in the results obtained.

533rd First Administration:

The first battery of instruments was administered on a voluntary basis to the members of the 533rd Strategic Missile Squadron prior to the formal funding of the research grant. Three officers who were members of the squadron circulated the battery to their colleagues, and thirty of the thirty-six crews responded on a voluntary basis. The concentration of this particular study was on crew commanders and as a result the subordinates were only given the SRR, RPM, and RI. The crew commanders, however, were given the RPM, SAS, RI, and SRR. The SBR was not in a suitable form for administration at that time, and hence, was not used. The test packets were distributed to the individual crew commanders who then circulated the individual tests to the men on their individual crews. Each crew member took the tests during their 24 hour alert period and returned them to the investigating team. Since the activity was voluntary and some selective process did determine who completed their instruments and who did not, the obtained results can be generalized with some limitations.

532 First Administration:

After nearly a year of data analysis, the other operational squadron

was tested on a formal basis. By this time, it became apparent that a more complete battery should be given to make systematic comparisons between role perceptions. The procedures for administration was altered to afford a greater control of the test taking environment. The test packets were delivered individually to the pre-departure briefing on each of four consecutive days. This reached thirty-four of the thirty-six crews and constituted the final sample. Instructions concerning the nature of the tests and how the responses were to be recorded were given to all departing crews simultaneously, and anonymity was guaranteed by the use of social security numbers instead of names. The packets were returned directly to the research team members present; the crew commanders were thus eliminated as middle men in the transaction, and greater candor was assumed as the result.

The subordinate's battery included the RPM, RI, SRR, and in addition, a rating scale of other members of the team in relation to "cooperativeness", "competence", "contribution", and "ability".

The SAS was not given, and the Subordinate Behavior Rating (SBR) was inappropriate.

Officers were given identical batteries which involved all five role instruments, and the rating scales for the behavior of each of the other team members. Even with this longer battery, the administration time, included instructions, was less than an hour and did not seem to hurry the respondents.

533rd Second Administration:

In the fall of 1971 a new Squadron Commander took control of the 533rd Squadron, and was very interested in more recent results which might

reflect upon the impact of his command. As a result of his needs, plus interest in broadening the sample, the test battery was administered to this squadron approximately eighteen months after the previous administration. During this period of time, however, there had been a high turn-over in duty assignments and the composition of most of the crews had been changed in either minor or major ways. Many of the previous commanders had left the service or been reassigned to other duties. Nearly all of the deputy commanders had taken on a commander's role either within the squadron or in its sister squadron. For these reasons the results obtained could be considered relatively uncontaminated by the previous testing.

The battery for this squadron was administered under similar conditions as those provided for testing the 532nd. The subjects thus took the tests during their pre-departure briefing, and were directed by the external research team. The instruments were the same as the other battery, except that the crew commanders took an additional set of instruments relating to their superordinate role flexibility. (The results of these instruments are not being reported in this tech report) Even with the addition of these additional instruments, all crew members finished the battery within an hour with no reported discomfort.

EXPERIMENTAL HYPOTHESES

The focus of this report is upon the role interactions involved in perception. Previous studies have shown that self-role perception corresponds very weakly to the role perceptions of others, leaving considerable variance to be explained by other dynamics. If the impact of superordinate or

subordinate role styles are to be more fully understood, it is highly important that the nature of perceptual bias and distortion be understood and utilized. The hypotheses underlying these studies can be classified into three major areas: perceptual accuracy; misattributions; frame of reference distortions; and superior - subordinate role confusion.

Perceptual Accuracy:

The question of accuracy of perceptions is assumed to be unnecessary to study and yet much of the previous data indicates that perceptions are most frequently unrelated to the actual objective conditions. Nevertheless, assuming validity within the instruments, it is expected that a certain component of the rater's response will reflect accurate perceptions of attitude-based behaviors of the person perceived. Based on this assumption, the following hypotheses are presented as testable consequences.

Hypothesis 1: The superordinate will be perceived by his subordinates with a certain degree of accuracy and this will be reflected in positive correlations between the three roles as measured by the Supervisory Rating Role and the measures of superordinate roles reflecting the superordinate's self-rating on the SAS and the RPM.

Hypothesis 2: The superordinate's perception of his subordinates as measured by the SBR will be positively correlated with the subordinate self-ratings on the RI and the RPM.

These two hypotheses postulate accuracy which is superimposed upon a wide variety of other dynamics operating simultaneously. They make no assumptions but that the variance and ratings in this area are associated

For this reason, the correlations are expected to be low but positive.

Need-Related Misattributions:

Within the context of this study, need-related misattributions must be defined in terms of supplementary role needs or expectancies. This general area has been defined in this study as "misattributions", and is clearly distinguished from the frame of reference questions which are related to anchoring, and the role confusion found when inferring superordinate roles from observed subordinate behavior.

The introduction of subordinate roles into the model establishes a basis for predictable expectation on the part of the subordinate concerning his superordinate's behavior. These lead to distinct perceptual distortions which should be manifested in their rating behavior. The superordinate also has needs which cause distortion in his ratings of his subordinates. These can be clearly defined in the context of the research conducted.

Experimental

Hypothesis 3: The perception of superordinates by subordinates measured on the Supervisory Role Rating will be highly correlated with the subordinate roles of the subordinate's measured on the RPM and the RI.

Experimental

Hypothesis 4: The ratings of subordinates by superordinates as measured on the Subordinate's Behavior Ratings will be highly correlated with the superordinate's roles of the crew commanders measured on the RPM and SAS.

Frame of Reference Distortions:

The process of perception depends upon the anchoring and centering of the perceptual field. The perceptions of what constitutes "average behavior" is often identified with the respondent's own values and own behavior. The term "frame of reference" is often applied to this perceptual field, and how this frame of reference is anchored plays an important part in the perceptions of others. It is therefore expected that the perception of appropriate behavior of superordinates or subordinates will reflect the individual's perception of his own role behavior and his own value system.

Experimental

Hypothesis 5: A subordinate's ratings of his superordinate on the SRR will reflect his own frame of reference by providing a negative correlation between the role found in himself and the role found in the superordinate.

Experimental

Hypothesis 6: The superordinate will rate his subordinates on the SBR using his own subordinate behavior as an anchor point and hence a negative correlation will exist between the rebel and ingratiating (for both parties), and a positive correlation on the critic scale.

The "frame of reference" distortion is subject to training and education and should not be too strong within this fairly sophisticated sample. It is also subject to an opposing perceptual bias introduced by the naive projection that others behave like the respondent.

Superordinate - Subordinate Role Confusion:

Behavior is not usually classified by the perceivers into superordinate or subordinate classes. For this reason, it is easy for the rater to make inferences concerning superordinate roles based upon observed subordinate behavior. Confusing the rebel role with an authoritarian role is a common misinterpretation of this type.

Hypothesis 7: Subordinates' upward perceptions of superordinates' roles will be meaningfully correlated with the subordinate roles of that superordinate on self perception instruments such as the RPM and SAS.

Hypothesis 8: The downward perception of superordinate will be meaningfully correlated with the superordinate behavior of the subordinates observed. There will be significant relationships between the SBR and superordinate scales on the RPM. Since this is a less likely mode of confusion, the correlations could be smaller than those found for Hypothesis 7.

STATISTICAL ANALYSIS

The scope of this study of perception has been limited primarily to the six roles presented in the RPM Model. In spite of this simplistic approach, some fairly complex interactional patterns are expected to emerge. To exploit these and to make as explicit as possible the dynamics involved, a number of multivariate techniques have been used. In addition to simple correlational techniques, factor analysis, canonical factor analysis, and multiple regression have been utilized. In some

cases partial correlations have been calculated to indicate the magnitude of relationships where contamination has been statistically removed.

Simple Correlations:

Most of the hypotheses can be answered in terms of a number of simple bivariate relationships between perceptions on the rating instruments compared with the superordinate and subordinate roles measured on the self report tests. In most of these cases the Pearson Product - Moment Correlations Coefficients have been reported. In some cases, however, where a curvilinear relationship is expected, the ETA or curvilinear coefficient has been calculated for each of the two directions.

Since many of the instruments carry high internal relationships between scales, the systematic interpretation of the numerous related parts becomes important. It is anticipated that many individual correlations when taken singly could be insignificant, but might prove highly significant when taken in patterns.

Factor Analysis:

Factor analysis is used by most researchers as a descriptive statistical tool, and hence proves unsatisfactory for inferential hypothesis testing. Factor analysis, however, does provide a method for integrating the numerous bivariate relations ips found in an extended correlation matrix, and is therefore expected to systematically reflect the perception dynamics resulting from these data.

Since the data reflects behaviors of each subordinate and his corresponding crew commander, it is expected that the factors will be of three major classes. One group of factors will involve internal consistencies in subordinate behavior; another will reflect the internal consistencies

in superordinate's behavior; and the third class will involve factors integrating the behaviors of subordinates with superordinates.

The first two classes of factors will reflect rater-based perceptual distortions, whereas the third class of factors should reflect real kinds of interaction, accuracy dynamics, and should also include superordinate - subordinate role confusion.

CHAPTER III

RESULTS

The purpose of this collection of studies is to determine the properties of the perception process within the close confines of missile crews. Since behavior and attitude are both determiners and manifestations of the perceptual field, they are extremely important to the study of morale and job satisfaction. It is, therefore, the intent of these studies to outline the results obtained in a systematic way as possible with the ultimate aim of accounting for variance associated with the process.

The format of this chapter reflects the process for gathering data rather than the relevant dimensions which were found. The results will thus be presented under the titles of Linear Predictions of Role Perceptions, and Simple Factor Analysis of Perceptual Data.

Since there were no previous studies in the areas of superordinate - subordinate role perceptions, the authors find it important to present simultaneously replicated results. For this reason a parallel analysis has been conducted on three separate experiments, and these results are reported together to demonstrate dependability and universality for the results obtained.

Linear Predictions of Role Perceptions:

Although there are many indications that curvilinear relationships exist between role preferences and role perceptions, the data outlined in this section will represent results from the use of Pearson Product - Moment Correlations between the dimensions. These, therefore, can be

considered as underestimations of the relationships since the probability and effect of curvilinearity is not explained at this time.

The simple correlations are calculated between the role perceptions of superordinate and subordinate, and role perceptions of subordinates by superordinates, as measured on the supervisor's role rating and the superordinate's behavior rating respectively. The studies conducted in this area are categorized as: Perceptual Congruency; Role Related Misattributions in Upward Perception; Role Related Misattributions in Downward Perception; Frame of Reference Distortion in Downward Perceptions; and Frame of Reference Distortion on Upward Perceptions.

Perceptual Congruency:

In the controversy over who is correct in perceptions, the external perceiver or the subject himself, it becomes important to perceptions how much common variance exists between these two perspectives. It can be assumed that some commonality exists between rating scales of the individual and his responses on the self report instruments designed for measuring the same dimensions.

Table 6 indicates some degree of agreement between the superordinate ratings of his crew as a whole, and the average scores on self report instruments measuring subordinate role preferences and subordinate role pressure. Assuming both role preference and pressures developed by social desirability affect role performance, it may also be assumed that both of these dimensions would influence the superordinate's perceptions of the subordinate's behaviors. Since the subordinate's behavior rating is not given to the Crew Commanders in the 1971 study, data are available only for the 1972 investigation.

Table 6: Perceptual Congruencies: Relationships between Self Ratings of Crew Members on the RPM and RI and the Roles Attributed to them by their Crew Commanders (SBR)

Subordinate Role Preference or Pressure - Tests	Roles Attributed to Subordinates - SBR	533rd 1971	532nd 1972
Critic Preference - RPM	Critic - SBR	+ 12	- 02
Critic Pressure - RI	Critic - SBR	+ 35	- 04
Rebel Preference - RPM	Rebel - SBR	+ 15	+ 42
Rebel Pressure - RI	Rebel - SBR	+ 15	+ 38
Ingratiator Preference - RPM	Ingratiator - SBR	+ 21	+ 29
Ingratiator Pressure - RI	Ingratiator - SBR	+ 03	+ 30
	N =	30	34

These roles indicate that rebel role preferences and pressures are more readily perceived by the superordinate. Three of these correlations were found to be significant and the remainder suggested a trend in the right direction. The next area of greatest accuracy was the ingratiating role. In the more authoritarian of the two units, this behavior was much more discernable, and hence, probably much more frequently displayed in all cases. The relationships between self-perception and the perception by the superordinate were in a positive direction, and in all 3 cases they were high enough to be considered significant.

The greatest confusion in perception was that directed toward the critic. The person receiving the highest scores on both the critic scales were perceived as ingratiator by his superordinates, and hence, the accuracy in this dimension was quite low. In the 532nd Squadron, which

operated with the more highly controlled structure, tendencies to make this confusion were the strongest.

Table 7: Perceptual Congruencies: Relationships between Self Ratings of the Crew Commanders on the SAS and RPM and the Roles Attributed to them by Subordinates (SRR)

Crew Commander's Superordinate Roles	Roles Attributed to them by Crew Members	532nd 1972	533rd 1972
Authoritarian - SAS	Authoritarian - SRR	+ 11	-.04
Authoritarian - RPM	Authoritarian - SRR	+.08	+.07
Equalitarian - SAS	Equalitarian - SRR	+ 27	+.09
Equalitarian - RPM	Equalitarian - SRR	+.07	-.01
Permissive - SAS	Permissive - SRR	+ 01	+.14
Permissive - RPM	Permissive - SRR	-.06	+.22
	N	102	98

Table 7 describes the accuracy of perception of crew members in describing their Crew Commanders. The results related the superordinate's role rating to the superordinate role preference measured on the RPM and his role pressure measured on the Supervise Ability Scale. The area of upward perception is even lower. None of the relationships were found to be significant, and some were even in the opposite direction from the relationship which would be anticipated. From the data it becomes highly apparent that the upward ratings are largely a function of other dynamics than the assessment of the behavior directly emanating from the superordinate's

attitude and value system. It is reassuring, however, to note that equalitarian as measured on the instruments is viewed by the subordinate to be most related to the superordinate's own self rating of the objective critic role. This positive correlation is significant in its own right. The difficulty in separating the authoritarian from the permissive supports the relatedness of these two constructs within the RPM Model. Although distinctly different behavior is manifested in the two roles, the assumptions and motives underlying them have many areas of commonality.

Based on these results, the need for further study concerning systematic bias in role perception is necessary. It becomes apparent that some nucleus of agreement does exist in the superordinate's self perception, and those perceptions provided by his subordinates, but it can be assumed that the majority of the variance is related to other dynamics.

Role-Related Misattributions in Upward Perception:

Inherent in the conceptualization and execution of subordinate roles are certain basic assumptions concerning a superordinate's attitude and behavior. Loyalty to a supervisor as implied in the ingratiation role requires that a positive perception of him be held by the subordinate. By the same token, the discrediting and obtrusive behavior provided by the rebel subordinate implies that his attitude concerning his superordinate must be largely negative. Therefore, it is highly suspected that much of the variance associated with the upward perception can be identified with the subordinate role needs of the perceiver.

Table 8 presents the Crew Commander's perception of the Site Commander, which correlates with his own subordinate role pressures measured on the Responsibility Index. A very clear pattern emerges which was

largely replicated over all three investigations. The rebel subordinates usually perceive their superordinate to be authoritarian and not equalitarian or permissive. Critics perceive their superordinate not as authoritarian but equalitarian, with some tendencies toward permissiveness. The ingratiators show a similar pattern to that found on the critic, with some differences found in the attitudes toward permissiveness. In spite of the fact that 69 Crew Commanders participated in the two studies, there are only 5 Site Commanders being rated, and the different patterns of correlations between the 1972 studies may very well reflect actual differences in the commander being rated.

Table 8. Role Related Misattributions: Relationships between Subordinate Role Pressure (RI) of Crew Commanders and the Roles they Attribute to their Site Commanders (SRR).

Crew Commander's Subordinate Role RI	Role Attributed to the Site Commander SAS	533rd 1971	533rd 1972	532nd 1972
Rebel	Authoritarian	+.48**	+.20	+.50**
Rebel	Equalitarian	-.41**	-.37**	-.37**
Rebel	Permissive	-.02	+.18	-.32
Critic	Authoritarian	-.39*	-.23	-.46**
Critic	Equalitarian	+.48*	+.22	+.47**
Critic	Permissive	+.07	+.05	+.11
Ingratiator	Authoritarian	-.28	-.07	-.26
Ingratiator	Equalitarian	+.30*	+.26	+.09
Ingratiator	Permissive	+.08	-.23	+.32
N =		30	34	35

A further study of the Site Commander's perceptions was made using the RPM, which is a role preference instrument. The results from these studies are reported in Table 9, and indicate less relationship between other perceptions and self report of attitudes. The same patterns are replicated for all studies, and these represent a similar pattern to those found with the Responsibility Index, a measure of role pressure. The lower correlations suggest that role preference has less to do with the perceptual process of the subordinate, than do the role pressure measures. It should be remembered again that the Site Commanders being rated were few, and therefore, may provide a biased base upon which the perceptions were founded.

Table 9: Role Related Misattributions: Relationships between Subordinate Role Preferences (RPM) of Crew Commanders and the Role they Attribute to the Site Commanders (SRR).

Crew Commander's Subordinate Role RPM	Role Attributed to the Site Commander SRR	533rd 1971	533rd 1972	532nd 1972
Rebel	Authoritarian	+ 2	+ 24	+ .17
Rebel	Equalitarian	-.07	- 23	-.07
Rebel	Permissive	-.09	- 10	-.18
Critic	Authoritarian	- 05	- 47	- 04
Critic	Equalitarian	+ 13	+ 49	+ 01
Critic	Permissive	+ 27	+ 20	+ 14
Ingratiator	Authoritarian	-.50	- 01	- 15
Ingratiator	Equalitarian	+ 55	+ 07	+ 02
Ingratiator	Permissive	- 03	+ 03	+ 15
N		= 30	34	35

In order to obtain a large sample to study the upward process, the crew members and Deputy Commanders of the operations units were also asked to rate their Crew Commanders. Table 10 indicates those perceptions of the crew members subordinate role pressures measured with the Responsibility Index. The same pattern of upward perceptual distortion was found. The highly significant correlations were found in this table indicating that the rebels uniformly perceive their superordinate as an authoritarian, and not an equalitarian, while the critic and ingratiator uniformly perceive the reverse to be true. Correcting these sten results as calculated on the systematical unreliable instruments, it can be assumed that the variance accounted for approximately 50% if the correlations were corrected for attenuation due to unreliability. The subordinate role pressure largely defined in terms of perceptions of role expectations seems to be an important factor in determining the perceptual field in which behavior is ultimately exhibited.

Table 10: Role Related Misattributions: Relationships between Subordinate Role Pressures (RI) of Crew Members and the Roles they attribute to their Crew Commanders (SRR).

Crew Members Subordinate Roles	Role Attributed to Crew Commander	533 1971	533 1972	532 1972
Rebel	Authoritarian	+.46	+.59	+.43
Rebel	Equalitarian	-.54	- .58	-.37
Rebel	Permissive	.00	-.00	-.09
Critic	Authoritarian	-.39	-.38	-.42
Critic	Equalitarian	+.48	+.41	+.22
Critic	Permissive	-.04	+.04	+ .25
Ingratiator	Authoritarian	-.28	-.49	- .21
Ingratiator	Equalitarian	+.30	+.44	+ .30
Ingratiator	Permissive	+.04	+.04	- .11
N		102	98	105

Table 11 shows the pattern of perceptual bias reflected to the subordinate role preference measured on the RPM. This table illustrates the same pattern of subordinate role influences found on upward perception in the other three tables, and indicates that in the larger sample, role preference has a significant effect on upward perception.

Table 11: Role Related Misattributions: Relationships between Subordinate Role Preferences (RPM) of Crew Members and the Roles they Attribute to their Crew Commanders (SRR).

Crew Member Subordinate Role	Role Attributed Crew Commander	533 1972	532 1972
Rebel	Authoritarian	+.24*	+ .08
Rebel	Equalitarian	-.35**	-.03
Rebel	Permissive	+.13	-.05
Critic	Authoritarian	- .29**	-.20
Critic	Equalitarian	+ .35**	+ .31**
Critic	Permissive	-.07	-.12
Ingratiator	Authoritarian	-.34**	-.12
Ingratiator	Equalitarian	+ .34**	+ .28**
Ingratiator	Permissive	- .01	-.19
		N = 92	105

Role-Related Misattribution in Downward Perception:

Although Table 7 indicates that the downward perceptual process is much more accurate than the upward, nevertheless, it can be assumed that systematical bias can be found within the superordinate role which the commander exhibits.

Table 12 illustrates some systematic role perception biases on the part of the superordinate as a function of his own superordinate role pressure. Authoritarians seem to perceive their subordinates as ingratulators, not critic or rebel. The Crew Commanders with high equalitarian role pressures tend to perceive the subordinates as rebels. These findings describe perceptual bias based upon needs for supplementation, and may actually describe behavior which has been reinforced in the subordinate.

The supplementation of roles by these findings are not sufficiently confirmed in self reports to substantially support the model. There is no doubt that these role preceptions are dependent upon the question of basic satisfaction with subordinates. Assuming these perceptions do reflect satisfaction, then it is possible to speculate that each superordinate role defines the satisfactory subordinate in a slightly different way. This seems to be the most likely interpretation of the difficulties found in relationships in these replicated studies. Thus, when the authoritarian describes a satisfactory employee he describes an ingratulator. When the equalitarian describes a satisfactory employee he describes a critic, and the permissive describes a rebel. These speculations should be tested under an explicit set of conditions to establish whether these are dynamics operating to explain this form of downward

perception.

Table 12: Perceptions of Subordinates by Crew Commanders as a Function of their own Superordinate Role
SAS

Superordinate Roles of Crew Commander	Role Attributed to Subordinates	533 1972	532 1972
Authoritarian	Critic	- 21	- 18
Authoritarian	Rebel	- 14	- 22
Authoritarian	Ingratiator	+ 32	+ 37
Equalitarian	Critic	+ 30	+ 27
Equalitarian	Rebel	- 09	- .02
Equalitarian	Ingratiator	- 17	- .22
Permissive	Critic	- 06	- 06
Permissive	Rebel	+ 28	+ 30
Permissive	Ingratiator	- 22	- 23
N		33	34

Table 13 indicates the effect of the superordinate role preference upon downward perception and a different pattern emerges. In these cases the subordinates fit the nonfunctional relationship. Thus, the authoritarian perceives his employee as a rebel; the equalitarian perceives him as an ingratiator; and the permissive makes no significant pattern in terms of his perceptions. Why role preference and role pressure should have different relationships is not clearly understood; the uniformity

TABLE 13: Perceptions of Subordinates by Crew Commanders as a
Function of their own Superordinate Roles - RPM

Superordinate Role of Crew Commanders	Role Attributed to Subordinates	533 1972	532 1972
Authoritarian	Critic	-.15	-.02
Authoritarian	Rebel	+.45	+.13
Authoritarian	Ingratiator	-.31	-.12
Equalitarian	Critic	-.06	.02
Equalitarian	Rebel	-.25	-.28
Equalitarian	Ingratiator	+.30	+.28
Permissive	Critic	-.13	+.07
Permissive	Rebel	+.02	+.06
Permissive	Ingratiator	+.09	-.11
		34	35

Table 14: Perceptions of Subordinates by Crew Commanders as a
Function of Their Own Subordinate
Role Bias

Subordinate Role of Crew Commander (RI)	Role Attributed to Subordinates (SBR)	533 1972	532 1972
Rebel	Critic	+.14	+ .36
Rebel	Rebel	-.01	- .15
Rebel	Ingratiator	-.11	- .24
Critic	Critic	+ .14	- .28
Critic	Rebel	- .09	+ .13
Critic	Ingratiator	- .04	+ .18
Ingratiator	Critic	-.24	- .23
Ingratiator	Rebel	+ .08	+ .09
Ingratiator	Ingratiator	+ .16	+ .16
N		34	35

of the pattern, however, suggests that meaningful differences are involved. It is conceivable that the natural equalitarian would perceive ingratiation in subordinates, and that the authoritarian would perceive rebellion in them, but these perceptions would be associated with dissatisfaction with subordinates, and no reasonable rationale on how a single set of responses could at one time reflect a favorable set of ratings where on another occasion they would reflect disfavorable reevaluations. Part of the difference lies in the lack of agreement in the role preference and role pressure measures but the search for the systematic difference is only further confounded by these findings.

Frame of Reference Distortion in Downward Perception:

The RPM Model hypothesizes that a superordinate responds to his subordinate primarily through his own superordinate role. However, the process of perception related to the frame of reference would link the subordinate roles to the perceptual process. Table 14 shows the relationships between the Crew Commander's own role pressure as measured on the Responsibility Index, and his perceptions of his subordinates on the Subordinate Behavior Rating. Replicated patterns emerge even though many of the correlations are slightly below the level of significance. The superordinates who place a high social desirability on ingratiating roles perceive their crews to be ingratiators. Other commanders who place a higher preference on the rebel role as measured on the Responsibility Index perceive their subordinates to be critic. Persons scoring high on the critic role behavior differ in the two squadrons. In the personality oriented squadron, the critic role was the perceived one, and in the organizationally oriented squadron, the subordinates were perceived as ingratiators.

Table 13 shows that a different pattern exists in downward perceptions as related to the subordinate preference measured by the RPM. In this case, the subordinates are perceived as critics by the ingratiation Crew Commander, as rebels by the critic commander, and critics by the rebel commander. The patterns are fairly persistent across replications and these results do not fit any perceptual theory presented to date. When summarized, they indicate that downward perceptions of subordinates are positively correlated to one's own response to social desirability role pressures, but that one's downward pressures indicate an inverse relationship to one's own subordinate role preference. Further summarizing this would suggest that I judge others to be like what I feel I should be, but I judge others unlike what I prefer to be.

Frame of Reference Distortion on Upward Perceptions:

In spite of the high proportion of perceptual variance related to the subordinate roles, it is hypothesized that the superordinate roles also affect the upward perception process by establishing the frame of reference for appropriateness of behavior in these roles. The subordinate's own superordinate role preference and pressure establishes the context within which he judges the superordinate role behavior of another persona.

Table 15 shows the relationship between the perception of the Site Commander by Crew Commanders and the Crew Commander's own superordinate role pressure. The most dominant set of relationships is found with the permissive role in the Crew Commanders and their perceptions of their superordinate to be authoritarian and not equalitarian or permissive. Other significant relationships are found between the equalitarian rater

Table 15 Frame of Reference Distortions: Relationships between the Crew Commander's own Superordinate Role Pressure (SAS) and the Roles he attributes to his Site Commander (SRR).

Crew Commanders Superordinate Roles	Role Attributed to Site Commanders	533 1971	533 1972	532 1972
Authoritarian	Authoritarian	- .33	+ .18	+ .06
Authoritarian	Equalitarian	+ .45	- .18	- .11
Authoritarian	Permissive	- .11	- .03	+ .06
Equalitarian	Authoritarian	- .22	- .31	- .30
Equalitarian	Equalitarian	- .02	+ .30	+ .39
Equalitarian	Permissive	+ .46	+ .07	- .04
Permissive	Authoritarian	+ .80	+ .11	+ .30
Permissive	Equalitarian	- .62	- .09	- .33
Permissive	Permissive	- .48	- .04	- .04
		N = 30	33	34

Table 16 Frame of Reference Distortions: Relationships between the Crew Commanders own Superordinate Role Preference (RPM) and the Roles he Attributes to his Site Commander (SRR).

Crew Commanders Superordinate Role RPM	Role Attributed to Site Commander	533rd 1971	533rd 1972	532nd 1972
Authoritarian	Authoritarian	- 28	+ .10	+ 11
Authoritarian	Equalitarian	+ 19	- 18	- 17
Authoritarian	Permissive	+ 18	+ .10	- 01
Equalitarian	Authoritarian	- 03	- 01	- 14
Equalitarian	Equalitarian	+ 28	+ 16	+ 10
Equalitarian	Permissive	- 35	- 17	+ 11
Permissive	Authoritarian	+ 20	+ 20	- 08
Permissive	Equalitarian	+ 06	- 07	- 01
Permissive	Permissive	- 26	- 21	+ 15
		N = 30	33	34

and his perception of equalitarianism in his Site Commander. The 1971 study showed that the authoritarian perceived his superordinate not to be authoritarian but equalitarian. These results were not replicated in the two later studies, and therefore, a number of speculations can be advanced. The frame of reference theory would support the 1971 findings, but contamination by high correlations between authoritarian and superordinate roles and the rebel subordinate might explain the results obtained in the 1972 studies. The amount of job satisfaction would also dilute or distort the results. Some variability within the scales themselves has resulted in revision in the instrument since the earlier study. It is quite clear, however, that superordinate role pressure does play a significant part in the upward perceptual process.

Table 16 shows that less distinct relationships exist between superordinate role preference measured on the RPM and upward perceptions of the Site Commander by Crew Commanders. Strong variation between the 532nd and 533rd Operation Squadrons manifested in this area and some reversals of trends even though these are not significant. In the 533rd, the permissive commander perceived his Site Commander to be authoritarian and not permissive. An opposing relationship between these dimension is found in the 532nd. The authoritarian role preference is negatively correlated with perceptions of equalitarian, and positively correlated with perceptions of authoritarianism. These are replicated trends which would be significant in larger samples.

Since the Supervise Ability Scale (SAS) was not given to crew members, measures of the superordinate role pressures are not available on the crew member level. Table XVII, however, indicates the relationship between

superordinate role preferences measured on the RPM and the upward perception by crew members of their Crew Commanders. The low correlations found in this table suggest that there is only a small amount of variance in the perceptual process relating to this area. The consistencies of the pattern of significance, however, suggest that some general pattern persists. The equalitarian role preference is positively correlated with upward perceptions of equalitarian and authoritarianism. The permissive role preference is positively correlated with perceived authoritarianism in the superordinate. Generally the correlations found are so similar, however, that they can be disregarded as a major source of variance in upward perception. A high level of job satisfaction in the 533rd Squadron in 1972 may have contributed to the frame of reference distortion being somewhat less than with the other samples, and deviating only as far as the equalitarian role.

Superordinate - Subordinate Role Transposition:

In both upward and downward perception it is easy to confuse superordinate with subordinate roles. A behavior relating to one level of roles may be misinterpreted to be a manifestation of the other level of roles. In this way, in judging a subordinate's roles, the superordinate may make inferences from his perception of the other's superordinate roles. This kind of role transposition in the perceptual process provides another systematical kind of bias to be considered in defining the distortions occurring. Table 18 indicates role confusion in the upward perception of the crew commanders by their crew members. It would seem that the attribution of a superordinate role is confused by the subordinate's behavior which the Crew Commander exhibits. It was found that in the two squadrons two

Table 17 Perceptions of Crew Commanders by Crew Members as a
Function of their own Superordinate Role - RPM
Preferences

Crew Members Superordinate	Role	Role Attributed Crew Commander	533 1971	533 1972	532 1972
Authoritarian		Authoritarian	-.07	+.15	+.01
Authoritarian		Equalitarian	+ .12	-.16	+.02
Authoritarian		Permissive	+.00	+.02	- .05
Equalitarian		Authoritarian	- .07	- .23	- .07
Equalitarian		Equalitarian	+ .05	+ .22	+ .08
Equalitarian		Permissive	- .03	+ .01	+.00
Permissive		Authoritarian	+ .20	-.10	+ .11
Permissive		Equalitarian	- .09	+.17	- .08
Permissive		Permissive	- .15	-.08	- .03
			N=	102	98
					105

Table 18 Superordinate-Subordinate Role Transpositions: Relationships
between Subordinate Role Pressures (RI) of the Crew Commanders
and the Superordinate Role (SRR) Attributed to them by their
Crews.

Commanders' (RI) Subordinate Roles	Superordinate Roles Attributed to them (SRR)	532 1972	533 1972	341 1973
Rebel	Authoritarian	-.411	.327	.065
Rebel	Equalitarian	.129	-.042	-.002
Rebel	Permissive	+.364	-.258	-.096
Critic	Authoritarian	.106	-.156	-.099
Critic	Equalitarian	-.050	.109	-.009
Critic	Permissive	-.109	.026	.163
Ingratiator	Authoritarian	+.426	-.281	.013
Ingratiator	Equalitarian	-.121	-.027	.011
Ingratiator	Permissive	-.365	+.291	-.037
		N =	35	34
				72

significantly different patterns were demonstrated. In one squadron, preference and pressure toward rebel on the part of the crew commanders was interpreted as a manifestation of authoritarianism. In the organizationally oriented squadron, however, it was interpreted as latent permissiveness. Each of these represent a different hypothesis of organizational behaviors on the part of the raters. In the "organizationally oriented" squadron, a subordinate role was inferred to be related to its complementary superordinate role according to the RPM model. In the "personality oriented" squadron, however, the subordinate role was inferred to be related by personality to the superordinate role. Hence, the individual was expected to exhibit either confrontive or supportive behavior in both superordinate and subordinate roles.

Table Superordinate-Subordinate Role Transpositions: Relationships between Subordinate Role Preferences (RPM) of the Crew Commanders and the Superordinate Role (SRR) Attributed to them by their Crews.

Commander's (RPM)	Superordinate Roles	532	532	341
Subordinate Roles	Attributed to them(SRR)	1972	1972	1973
Rebel	Authoritarian	+ .094	+ .399	- .028
Rebel	Equalitarian	- .305	- .205	+ .117
Rebel	Permissive	+ .249	- .148	- .130
Critic	Authoritarian	- .014	- .192	+ .087
Critic	Equalitarian	- .016	+ .458	- .067
Critic	Permissive	+ .019	- .320	- .032
Ingratiator	Authoritarian	- .034	- .303	- .027
Ingratiator	Equalitarian	+ .170	+ .325	+ .043
Ingratiator	Permissive	- .112	- .072	- .022
N =		35	34	72

Table 19 shows the influence of role transformation distortions as related to the subordinate role preferences of the target superordinate. In this case again, the two squadrons measured in 1972 exhibited opposite patterns conforming to those expected by the "personality oriented" and "organizationally oriented" distinction. The Minute Man Squadron did not show sufficiently high correlations between the roles to resolve which orientation is most frequent in similar units. It can be speculated that the inclusion of a more heterogeneous group allows the influences of the two orientations to cancel each other out. Had the 533rd and 532nd squadrons not been so divergent, this source of perceptual distortion might not have been found. In most heterogeneous samples, both perceptual patterns cancel each other out leaving a near zero correlation which might easily be interpreted as a non relationship.

MULTIPLE PREDICTION OF ROLE PERCEPTIONS

As was readily seen from the bivariate correlations reported in the earlier section, a large number of sources of variance systematically feed into perceptual patterns. These data lose some of their identifiability through the overlap between the predictive scales themselves as well as the systematic relationships which are both theoretically and empirically determined. To unravel this confoundment, multiple regression analysis was used to isolate independent sources of variance and to determine how much of the total variance was accounted for by these particular variables.

Whereas the process of multiple prediction is simple, the interpretations are confounded by the lack of perfect reliability of the predictors or criteria. Guilford (1954) suggested correcting for alternation due to unreliability using the formula:

Equation 1:
$$r_{\infty w} = \frac{r_{xy}}{\sqrt{r_{xx} \cdot r_{yy}}}$$

Where: r_{xy} is the correlation between scales.
 r_{xx} is the reliability for one scale.
 r_{yy} is the reliability for the other scale.

Since the correction of all correlations prior to analysis would be inordinately difficult, an approximation of the results was accomplished through correcting the resulting Beta weights and correlations for each predictor with the criteria. This reduces the formula to:

Equation 2:
$$B_{\infty w} \cdot r_{\infty w} = \frac{r_{xy} \cdot B_{xy}}{r_{xx} \cdot r_{yy}}$$

Where: $B_{\infty w}$ is the true percentage of variance contributed to x by predictor x.

Table 20 indicates the results from the multiple regression equation corrected for the attenuation due to lack of reliability of the instruments used for measuring. Since the percentage is the product of the Beta weight and the correlation of the predictor with criterion, Equation 2 was used for correction purposes. The data indicates that 3/4 of the variance can be attributed to the sources of variance expressed in this report. It is interesting to note that very little contribution is derived from the person's own self perception as reflected in the column identified as "accuracy". The permissive role is least well defined and hardest to predict based upon role measures. This may emphasize why the permissive role is so often either omitted or confused with equalitarianism. The role needs of the subordinates is the major source of variance associated with the perceptions of the superordinates in all cases but permissiveness in the 533rd squadron. In this case, superordinate-subordinate role confusion was much larger.

Because of the redundant variance being consolidated on one or two dimensions, the distribution of contributions is less even than what the correlations would indicate from earlier tables.

Table 21 indicates the distribution of variance related to downward perception by superordinates. In this case again, role needs of the superordinate contribute significantly to the prediction. Here again, the accuracy factor contributed relatively little to prediction except in the case of the rebels in the 532nd squadron. Frame of reference, however, becomes extremely important for downward perception since it is based upon comparative judgments of a fairly large reference group. Its lack of prediction in upward perception may be the absence of the variety necessary for establishing judgments. The reflexive measures of Authoritarianism in the 533rd Squadron seemed to contribute substantially to the process of perceiving rebels but was not active in any other consistent way for other role perceptions.

TABLE 20: Calculated and Corrected Percentage
Variance Distributions for the Attribution of Roles to Superordinates

Roles Attributed to Superordinate	unit	Frame of Reference (%)	Organi- zational Maturity (%)	Super-Sub Confusion (%)	Needs (%)	Reflex Measure (%)	Accuracy (%)	Total (%)
AUTHORITARIAN: Calculated	532	.00	.00	.08	.29	.09	.04	.50
Corrected	532	.00	.00	.12	.43	.15	.07	.77
AUTHORITARIAN: Calculated	533	.04	.01	.09	.30	.02	.01	.47
Corrected	533	.07	.02	.15	.47	.03	.02	.76
EQUALITARIAN: Calculated	532	.00	.03	.06	.14	.17	.10	.50
Corrected	532	.00	.04	.08	.21	.25	.16	.74
EQUALITARIAN: Calculated	533	.02	.06	.09	.24	.08	.02	.52
Corrected	533	.03	.11	.15	.33	.13	.03	.78
PERMISSIVE: Calculated	532	.00	.03	.03	.27	.03	.04	.40
Corrected	532	.00	.04	.05	.40	.05	.06	.60
PERMISSIVE: Calculated	533	.01	.02	.14	.01	.05	.05	.28
Corrected	533	.03	.04	.26	.02	.09	.11	.55

TABLE 21: Calculated and Corrected Percentage
Variance Distributions for the Attribution of Roles to Subordinates

Roles Attributed to Superiorordinate	Unit	Frame of Reference (%)	Organi- zational Maturity (%)	Super-sub Confusion (%)	Needs (%)	Reflex Measure (%)	Accuracy (%)	Total (%)
REBEL: Calculated	532	.26	.02	.09	.09	.03	.11	.60
Corrected	532	.39	.03	.14	.13	.05	.17	.91
REBEL: Calculated	533	.08	.00	.02	.36	.28	.00	.74
Corrected	533	.11	.00	.03	.46	.35	.00	.95
CRITIC: Calculated	532	.08	.02	.01	.15	.05	.01	.34
Corrected	532	.21	.05	.02	.41	.13	.02	.84
CRITIC: Calculated	533	.15	.22	.02	.15	.05	.00	.59
Corrected	533	.22	.33	.04	.23	.07	.00	.89
INGRATIATOR: Calculated	532	.09	.00	.05	.33	.03	.05	.56
Corrected	532	.14	.01	.08	.49	.05	.09	.86
INGRATIATOR: Calculated	533	.18	.16	.03	.26	.01	.00	.64
Corrected	533	.26	.23	.04	.38	.01	.00	.92

CHAPTER IV

Discussion

The processes of people perception and attribution have recently become the subject of both popular speculation and scientific investigation. The level of control exercised by the perceiver has been suspected but seldom illustrated more dramatically than in the results of this study. The variance is predominated by perceiver variables rather than those associated with the target individual or group. Does that indicate that leadership style is a myth built up from misattributions made by subjective perceivers? Does it suggest that management improvements can be accomplished through brainwashing techniques engineered to alter perceptions? What implications do these findings have for subsequent behaviors of the subjects and subsequent research by the investigators?

Vindication of "Leadership Roles"

The same data which yielded the results for this monograph also provided intercorrelations between the roles of superordinates and the roles of subordinates. From these, additional inferences can be made concerning the quality of the relationships between these various levels within an organization. From these analyses, (Sweney, 1975; Sweney, Samores, and Fiechtner, 1975; and Sweney and Fiechtner, 1976) it can be seen that the interrelationships between subordinates and superordinates hypothesized by the model are demonstrated moderately well. This gives some reassurance that the roles are sufficiently real to induce adaptive or reactive behavior in the alternate member of the relationship.

In emphasizing the perceiver related sources of variance, there has been no intention to disregard or question that covariance which relates self-

perceived roles with other perceived roles. In all cases, the correlations were positive, indicating some common source of information shared by both the perceiver and the target person concerning the latter's predicted behavior. The accuracy of perception seemed to be greatest for authoritarian and rebel roles, possibly because these roles seemed to represent the greatest deviations from the norm. The greatest confusion, however, seemed to be experienced in discriminating supportive from objective roles.

The raw strength of an organizational role may demand distortion and misattribution and these thereby attest to the presence of that role. The really strong authoritarian thus generates sufficiently strong ingratiation in his subordinates so that they must deny his authoritarianism and attribute to him equalitarianism. Does this mean that his true style hasn't exposed itself in the interaction? Obviously, it has or the subordinates would not have developed so strong a complementary role.

One of the strongest evidence for the reality of the roles is found in the "Reflexive" measure of role deduced from their own perceptions of other leaders or other subordinates. The value systems of an individual are found in his own perception of others. In politics, the right wing members see everyone as communists and the left wing members perceive that the world is filled with self-serving capitalists. In this way, their perceptions of others may provide a clearer picture of their own political attitude than would a self description utilizing all the artifices necessary for ego protection and peer acceptance. Thus, in most instances, in these studies the reflexive measures were more correlated with perception of others than were the self perceptions.

Universal vs Flexible Roles:

The contents of this monograph deal primarily with instruments describing

generalized rather than particularized behavior. The superordinate was responding to his subordinates as a group in the SBR. The role pressure and preference scales dealt with the roles as generally applied rather than with real behavior in real situations. This precluded gathering the more realistic data associated with special events or special individuals.

In an earlier paper (Sweney and Young, 1972), individualized roles to specific subordinates were measured by the Superior-Subordinate Evaluation Test developed by Marsteller (1971). In this study, it was found that a great deal of flexibility of role responses was claimed by most equalitarians, but the permissives were so tightly bound by their personal value system that they had difficulty making discrimination or giving differential responses. This is in accord with Fiedler's findings with the ASO managers.

This limitation to the tests and to their particular study is worthy to note, but is in no way damning. It can be assumed that for prediction and intervention purposes, it is the generalized rather than the specialized role measures which are sought. Unless a serious effort is made to match subordinates with superordinates (and the author doesn't advise it) the most important use of data of this kind is to monitor and modify behavior and to understand the psychology involved in complex interpersonal relationships.

The recognition of the role options available makes it possible for the organization member to utilize flexibility in both his superordinate and subordinate role in order to achieve more effectively his own goals and those of the organization. By providing insight into the perception process, the individual may be able to reduce the personal dissonance which is generated by what would otherwise be inexplicable behavior by alternate parties in relationships.

The excessive reaction to misattributions often triggers dysfunctional behavior which frequently leads to self-fulfilling prophecy. The flexible leader who becomes concerned about indications that his subordinates see him as an authoritarian can become manipulative in ways which vindicate what might have originally been misattribution or at least highly selective perceptions. The recognition of these perception processes helps the flexible member sort out the sources of variance in the perception by others of him and allows him to operate directly only on those most related to his own behavior.

Role Reactions vs Role Values:

The research culminating in this paper and in the development of the Interpersonal Power Model (Sweeney, 1973) all points to the greater complexity of the nature and reasons for the interactions in organizational hierarchies. The Response to Power Battery reported upon here is a parsimonious simplification of a much larger number of possible role behaviors. They are value oriented and only secondarily related to the etiological factors giving them support.

It became apparent from the low values of the correlation between roles assumed by superordinates and subordinates that either the interpersonal influence was small or that more than one conflicting dynamic was occurring simultaneously and was canceling each other out. The latter hypothesis seemed more likely since it was supported by conflicting theoretical positions. Reinforcement theory would predict positive relationships of authoritarians with ingratators and permissives with rebels. Humanism and dissonance theory would tend to yield positive correlations for authoritarians with rebels and permissives with ingratators. Although contradictory, it seemed possible to assume that both were correct under some conditions.

The Role Reaction Model was generated (Sweney and Fiechtner, 1973) to reconcile these seemingly opposing viewpoints. By differentiating the manipulative roles into "interactive" and "counteractive" components, it was possible to generate more appropriate items to measure the dynamics expected. The counteractive components match with each other to follow humanistic theory while the interactive components interact in accordance with reinforcement considerations.

It can be assumed that some of the aberrations and inconsistencies found between replications in the studies reported here are due to differences in the mix of these two contrasting reactive patterns. This is noted in one case where the correlations were found to have opposite signs but highly significant magnitudes. It should also be apparent that these conflicting patterns may also be at work elsewhere and serve only to reduce the magnitude of the perceptual patterns which were found.

If some differentiating techniques were found for separating management dyads into those exhibiting prevalent interactive and counteractive patterns, it should enable the researchers to purify and enhance the results. The main obstacle would be the diminution of the sample size to the point that parametric statistics would no longer be appropriate. This difficulty might be overcome by combining samples from different sources, but this would obviate internal replication.

Implications

The kinds of perceptual distortion have been operationally defined in this study in terms of the classes of variables which were measured and related across management dyads. There has been no attempt to relate variables other than organizational roles to the dynamics observed. For this reason, the

particular principles developed should not be considered all inclusive but to define those possible from the variables studied.

A great deal of emphasis is being placed in most settings upon organizational development and staff growth. A clear understanding of these perceptual patterns should be an intrinsic part of any program of this kind. The past luxury of assuming organizational perceptions to be valid is no longer tenable. Closer scrutiny of the biases of the observers is essential before their perceptions can be taken at face value or corrected to more closely correspond to objective reality.

Gaining perspective concerning one's own behavior and perceptions is a worthy goal for any organization member. Recognition of the constraints on accuracy is helpful in providing the non-punitive flexibility necessary to cope with human complexities. The process of striving for greater perceptual accuracy is one of the first steps in building an objective organization. The solace which comes from finding others who share a bias is an insufficient method for obtaining consensual validation. Until better direct methods for observing and classifying behaviors are found, observers will have to be content with correcting subjective bias with a clearer understanding of the processes and the contribution of their own values and roles.

CHAPTER V

Summary and Conclusion

By defining a basic management system as being composed of a superior, a subordinate, and a situation, the dynamics of interpersonal relationships become of utmost importance. The studies reported in this monograph were directed toward investigating the interpersonal perceptions within the management dyad and to identify the sources of variance which were related to the organizational roles played by the individual members. An effort was made to ascertain the level of accuracy and the nature of the systematic biases involved.

The subjects for these studies were members of strategic missile operations crews. These units were selected because they provided examples of small natural management systems. The Titan missile teams are composed of four members: a crew commander, a deputy crew commander, and two enlisted men. The Minute Man crews are even more basic, consisting of a single superior, a single subordinate, and a very well-defined situation. The Titan crews came from McConnell and Little Rock Air Force Bases, and the Minute Man crews were measured at Malmstrom Air Force Base in Montana. Although conditions of assignment were somewhat different, both groups shared similar hardships of isolation, regular separations from families and dysynchrony of their internal clocks due to the irregularity of their shifts. They were all faced with responsibility by the ultimate in destruction should the proper command be given. In many cases, they represented upwardly mobile young officers and airmen who were convinced that their success lay in remaining with the Air Force until retirement.

The instruments used had been developed to measure the constructs posited

by Sweney's Response to Power Model. These included the Response to Power Measure, the Supervise Ability Scale, the Responsibility Index, the Subordinate Behavior Rating, and the Supervisors Role Rating. These instruments measure self perceived role pressure and role preference and the role perception of superordinates and subordinate by each other.

The RPM model posits six interactive crucial organizational roles. The three superordinate roles are based upon the Lewin, Lippett and White social climates and Rosenzweig's frustration reactions, and are named the authoritarian, the equalitarian, and the permissive. The subordinate roles include the rebel, the critic, and the ingratiator. Their interactive nature establishes the basis for theoretical dynamics occurring between the superordinates and subordinates.

The data were analyzed within subjects as well as within the management dyads which involve one superordinate and one subordinate. The correlations among the scales define a number of possible regions of relationship. Particular patterns within these regions define specialized sources of variance and consistent patterns of interpersonal perception. The five sources of perceptual variance were identified as Perceptual Congruencies, Role Related Misattribution, Frame of Reference Distortions, Superordinate-Subordinate Role Transposition, and Behavioral Reflection. These partition the variance in a systematic way.

Perceptual Congruency represents the amount of agreement between the other perception of the perceiver and the self perception of the target person. This might be considered the "validity" of either the other-perception or of the self-perception of the target person. *Role Related Misattributions* are the strongest source of variance representing the manifestation of the subordinates wole needs for perception, such as the need for the rebel to

perceive his superordinate as an authoritarian and the ingratiator to see his boss as equalitarian.

Frame of Reference Distortion reflects the tendencies for the perceiver to use his own distribution of roles to be the norm and to judge the target person's behaviors as departures from that standard. Thus, authoritarians tend to see their biases as permissive and rebels tend to perceive their subordinates as ingratiators.

Superordinate-Subordinate Role Transpositions are made when the perceiver makes superordinate role inferences from observing subordinate role behavior or vice versa. This source of variance is thus shared by both the target and perceiver. These transpositions are based upon the perceiver's sense of relationship between subordinate and corresponding superordinate roles. If he is "organizationally oriented", he will infer authoritarianism from observing ingratiating behavior. For a "Humanistically Oriented" perceiver, the permissive role would be inferred from the same observation of subordinate role behavior.

Behavioral Reflection may be another form of validity because it can successfully account for considerable variance in other perceptions. It is defined as "reflexive" because the upward rating behavior of one level is highly related to the upward ratings of the level just below them. For example, if a superordinate perceives his boss to be authoritarian, he himself is perceived to be permissive by his subordinates. The strength of this measure often exceeds the direct self-perceptions recorded by other role instruments. In this way, the reflection on the person of his rating behavior is related to his own superordinate's behavior in such a way that it is perceived by his subordinates.

The systematic sources of variance as indicated by this study explain over 50% of the variance for all roles except the permissive, which was

slightly less well defined. The majority of the variance in perceptions was provided by the perceiver rather than the target person. The correspondence between self-perception and perception by other was quite low for all roles except the rebel. This suggests that other-perception in the absence of measurable attributes is a highly biased process which exposes more information about the "judge" than the "judged".

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Systematic sources of variance in perception have been identified with target and perceiver role variables. Three levels of the Titan missile Operations Squadrons attributed roles to levels above and levels below on the <u>superordinate</u> <u>role rating</u> and <u>subordinate Behavior Rating</u> . ↑		